Would-be Physicist Creates Tools to See (and Treat) Cancer In New Ways

Quantum Leap

Adam de la Zerda, PhD, doesn’t seek the spotlight, but it is getting hard for him to avoid it. The soft-spoken assistant professor has earned a slew of prestigious awards, co-authored ground-breaking papers in major scientific journals, secured several new technology patents and twice been named to the Forbes Magazine list of “30 Under 30 Who Are Changing the World” in the category of science and healthcare. Two years ago, at age 27, he became the youngest faculty member in Stanford School of Medicine history.

“That is what they said at the time,” he demurred. “There may have been someone younger since.”

“Motivation is everything.”
— Adam de la Zerda, PhD

de la Zerda studied computer science, electrical engineering and physics as an undergraduate at the University of California Berkeley. He came to Stanford to pursue a graduate degree in theoretical quantum physics, but his ambitions changed when he lost a close friend to brain cancer.

“I felt that if there was something I could do in the cancer field, I was obligated to try,” said de la Zerda.

His unique skill set led him into molecular imaging, which combines physics, electrical and computer engineering (and other disciplines) in order to visualize the complex workings of living organisms. He applied to

See QUANTUM LEAP, page 4
This issue of SCI News features the work of Adam de la Zerda, PhD, one of Stanford’s most promising young faculty members. After doing graduate work with the Stanford Molecular Imaging Program, Adam joined the Department of Structural Biology in 2012 as an Assistant Professor. Adam’s cancer research focuses on creating new tools to image tumors, which is one of the key projects in the SCI’s aggressive program to identify cancer at its earliest and most treatable stages (see the Stanford Canary Center on Page 3).

Our Winter 2013 issue introduced the ambitious Stanford Cancer Initiative to fundamentally transform how cancer is diagnosed and treated. See Page 10 for an update on our progress to create a new standard of cancer care, the first of regular progress reports as we implement this exciting Initiative.

In January the School of Medicine was thrilled to host Alan Alda and his team from Stony Brook University. Alan delivered a public lecture on effectively communicating science, and then led a two-day training session for interested faculty. He shares his thoughts on scientific communications in our interview on Pages 6 and 7.

The Cancer Prevention Institute of California (CPIC) has been an integral part of the SCI since our inception. This issue pays tribute to two of the CPIC’s most distinguished scientists and academic leaders. On Page 8, Sally Glazer, PhD, who recently stepped down as CPIC’s Chief Executive Officer, reflects on CPIC and its partnership with SCI. On Page 9 we highlight the first annual Dee West Symposium, held at Stanford in March. Dee was the SCI’s first Associate Director for Population Sciences and was one of the original architects of the Cancer Registry databases that have helped scientists uncover some of the causes of cancer and educated policymakers about the broad impact of cancer on society.

Together, these stories illustrate the diverse and collaborative nature of Stanford’s cancer research efforts. From innovative laboratory studies to data-driven population science, SCI members are pushing the frontiers of cancer research and treatment, as well as improving how the results are communicated to our peers, the media and to our most valued constituents: our patients. Excellent cancer communication is also what we try to do in every edition of SCI News.

Beverly S. Mitchell, MD
Director
Increasing Efforts in Early Cancer Detection
Canary Center Poised for Growth

The Canary Center at Stanford is focused on saving lives through cancer early detection. To realize this vision, the Center’s multidisciplinary staff of researchers and clinicians works to discover and implement minimally invasive diagnostic and imaging strategies for the detection and localization of aggressive cancers at early, curable stages.

2014 will be a year of significant growth for the Center as it adds new faculty and capabilities. The expansion began in October 2013 when the Center moved to Stanford’s new Technology and Innovation Park, and into a facility with more than twice the space for researchers, labs and core facilities. The School of Medicine’s genetics department is also located nearby, facilitating easy collaboration between the two groups.

“We are very fortunate to have the space and support from the Medical School, University and the Canary Foundation to attract the best scientists and physicians to work on the important problem of early cancer detection,” said Sanjiv “Sam” Gambhir, MD, PhD, the Center’s director and Chair of the Department of Radiology. “Stanford is uniquely positioned to lead the world in this area, which is so important to future human health.”

This spring the Center’s existing Proteomics, Cell and Molecular Biology and Chemistry core faculties will expand to include a Pre-clinical Imaging Core. This core will be home to an 11.7 Tesla pre-clinical MRI instrument donated by Agilent Technologies. It will be the strongest field-strength instrument at Stanford, allowing unprecedented detail in MRI images and advancing the understanding of multiple disease processes.

With more laboratory space available, the Center is recruiting new faculty to expand its expertise in nanotechnology, genomics and tumor biology. It has also implemented an Associate Membership program to recognize researchers at Stanford and other institutions who are making significant advances in early cancer detection research. Their goal is to continue expanding this network and further enhance their collaborative, multidisciplinary research efforts with new investigators and innovative research programs.

For more information please visit canarycenter.stanford.edu or contact the Canary Center Deputy Director, Bree Mitchell, PhD, at bree.mitchell@stanford.edu.

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The Stanford Cancer Institute newsletter is available in an electronic version. SCI News can be emailed to you as a full-color .pdf file with active hyperlinks and additional content and features.

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Past Issues of SCI News Available Online

All previous issues of SCI News are archived in the “News and Events” section of the Stanford Cancer Institute website: cancer.stanford.edu/news

The navigation bar on the left side of the page contains links to the current edition (“Newsletter”) and to past editions (“Archived Issues”).

You feedback and questions are welcome, and can be emailed to: scinewsletter@stanford.edu
the renowned Molecular Imaging Program at Stanford, directed by SCI member Sam Gambhir, MD, PhD, who also chairs the department of radiology. de la Zerda was eager to join Gambhir’s cancer research effort, but had concerns because in all his studies he had never taken a medicine or human biology class.

“I’ll never forget what he told me: that anyone can do anything they want if they set their mind to it,” said de la Zerda. “And he is right; motivation is everything.”

Next, de la Zerda embarked on a crash course in cancer by shadowing Stanford oncologists on patient visits and surgical procedures. The experience helped refine his research goal: develop technology to find cancer earlier and analyze it more accurately.

“I want to be able to build new tools that will allow us to look into the living body and see things that we have never been able to see before,” said de la Zerda.

**Lights, Sounds, Action**

Together with colleagues in the Gambhir lab, de la Zerda developed a highly accurate new technique for imaging tumors. The approach begins by coating extremely small metal particles, known as “nanoparticles,” with a chemical formula designed to adhere to specific molecular markers in cancer cells they are targeting. The non-toxic particles are administered into the patient’s bloodstream, and as they circulate throughout the body they bind to the cancer cells they encounter while bypassing healthy cells. Under certain kinds of radiation, the metal cores of the particles give off signals that illuminate the tumor when viewed through electromagnetic scanners.

Versions of this technique are fairly routine in modern imaging, but de la Zerda and his collaborators added key innovations that dramatically increased both the resolution and accuracy of their images.

First, they utilized what is called the “photoacoustic effect”—a term coined by Alexander Graham Bell in 1880—by which metal absorbs light energy and releases it as sound waves. The tumor area is lit with pulses of laser light while also being scanned with an ultrasound machine. The nanoparticles (with cores of gold in this case) absorb the light, heat up and expand slightly, and release tiny shock waves that radiate through the surrounding tissue. The ultrasound captures and records the waves, and that data is used to construct a detailed three-dimensional image of the tumor. de la Zerda dubbed the process “photoacoustic molecular imaging,” and it can see smaller tumors (less than one millimeter in diameter!) buried deeper in tissue than anything before it.

Demonstrating this novel technology on any type of cancer—or one of its many other potential medical applications—would have been a scientific coup, but de la Zerda went further, taking on his old foe: brain cancer. The most common form of brain cancer, called Glioblastoma, is also the most lethal, largely because its tumors sprout tiny root-like projections that burrow into surrounding healthy tissue. Even if the body of the tumor is removed, new tumors can grow from each remaining root.

Most of these projections are invisible to the naked eye, so surgeons extract a margin of healthy tissue from around the tumor site in the hopes of getting them. If too little tissue is taken the cancer will recur, and if too much is taken the patient is needlessly, and perhaps significantly, harmed. There had to be a better way, but no one had been able to create nanoparticles capable of reaching and adhering to the root structures, or to see them if they did.

“There is a huge clinical need, and we felt there was a compelling argument to try it,” said de la Zerda.

In a feat of chemical and structural engineering prowess, he and his colleagues crafted gold-core and chemical-coated particles in the precise size and shape necessary to allow them to seep out of tiny semi-permeable ducts in the blood vessels that supply the cancer cells. Extensive laboratory testing in rodent models proved that the particles accurately tagged all of the cancer cells and none of the healthy brain cells.

“Getting those particles just right was not trivial,” said de la Zerda, in characteristically understated fashion.

In addition to seeing smaller tumors and defining their boundaries more accurately, photoacoustic imaging can also be used to look inside tumors with greater precision than ever before. With it, de la Zerda can analyze the cellular makeup of a tumor while it is still in the body, and he can see in real time if it is responding to therapy.
has undergone months of toxic treatment and unpleasant side effects without significant improvement in their long-term prognosis. They also suffer the devastating emotional whiplash of cancer remission and recurrence. With photoacoustic molecular imaging, de la Zerda expects to be able to know in mere days whether a therapy is working and on which types of cells, so that oncologists can determine if their treatment needs to be changed or augmented with adjuvant therapy.

Of course, for photoacoustic imaging to be effective investigators need to understand the molecular characteristics of the cancer they are treating. So de la Zerda works with cancer biologists to identify the unique molecular targets for the cell types of interest, and then he works with chemists and engineers to design the optimal metal nanoparticle and chemical “hook” to bind to the target. According to de la Zerda, Stanford is one of the best places in the world for this type of biochemical engineering, which makes him even more optimistic about his technology’s application to many types of cancer and other medical conditions.

**Good Company**

When he became an assistant professor, de la Zerda applied and was accepted to Stanford’s revered department of structural biology, an elite group of investigators working to explain biological function and disease using the tools of physics, chemistry and biology. He joined just nine other faculty members, of whom three are members of the prestigious National Academy of Sciences, three are members of the British equivalent, the Royal Society, and two are Nobel Prize winners.

“The camera will illuminate the cancer cells, and we will literally be able to remove these cancer cells while leaving those healthy cells behind,” said de la Zerda.

For the self-described “new kid on the block,” accolades like the Forbes’ “30 Under 30” list have helped de la Zerda recruit top talent to his growing lab. Over the past two years, he has assembled a team of six junior investigators with a wide range of expertise, including biology, chemistry, electrical and computer engineering, and advanced data analysis. The multidisciplinary nature of the work—which also involves instrument design, electronics and miniaturization—requires that his recruits bring a collaborative mindset.

“Working alongside such luminaries is inspiring and empowering to allow one to work on problems that are truly important for mankind,” said de la Zerda.
Alan Alda is as an award-winning actor, director and writer—best known for playing wise-cracking surgeon, Hawkeye Pierce, on the iconic television series M*A*S*H—but he has recently added “teacher” to his distinguished resume.

Combining his experience in the performing arts with his passion for science, Alda has created a unique program that teaches scientists to become more effective communicators. Alan argues that policy makers, the public and even the progress of science itself would benefit greatly from more clear discussions of scientific topics like genetically modified foods, stem cell research and climate change.

As co-founder of the Alan Alda Center for Communicating Science at Stony Brook University in Long Island, New York, Alda is part of a faculty that includes journalists, communicators, scientists and acting coaches. The Center offers accredited classes for master’s and PhD students from all fields of science. Courses include broadcast media training, presentation skills and use of social media.

Its most novel curricula, though, are the improvisation classes that Alda himself developed to train presenters to both effectively engage and closely observe their audiences. The techniques create a two-way information flow, rather than a didactic lecture, in which all too often the speaker is merely talking at an audience rather than communicating with them.

SCI News recently spoke with Alda while he was at Stanford to conduct one of the Center’s remote workshops, where condensed courses—including improvisation skills classes—are provided for both junior investigators and more seasoned scientists. More information on the Alda Center can be found at: www.centerforcommunicatingscience.org

Where did your passion for science come from?
I wish I knew. I’ve just always been curious. I set up experiments when I was six, and was an amateur inventor at ten. I discovered early that I really love learning, even though I never liked school.

You didn’t study science in school?
I once took a summer school course in chemistry because my father wanted me to be a doctor. I was afraid if I actually did well on it then I would have to be a doctor instead of the writer and actor that I really wanted to be. I did pretty abysmally on the final exam (laughs).

You are a self-directed learner.
I always remember just looking at the things around me and wondering how they got there and why. And I read a lot. In my 20’s I started reading every article in every edition of Scientific American.

And eventually you hosted twelve seasons of Scientific American Frontiers.
They initially asked me to just read a narration, and I told them that I wouldn’t be interested unless I could talk to the scientists, spend the day and learn from them.

Do you have a particular field of science that is your favorite?
I sometimes think that I do, but then it changes. I love physics and astrophysics, as well as neuroscience and biology. I’d say I most love the thing that I am learning at that moment.

You have said that we are “swimming in a sea of science.” Is the average person’s understanding keeping pace?
Unfortunately no. A great number of people—people who are voters, are productive and in many ways are maintaining the culture—do not recognize the science in their daily lives, even though the amount of technology is increasing at a very rapid rate. And given that, it’s possible they could approach science with fear.

Why do you think the public is often skeptical about science, such as competing claims about a food or behavior being healthy or harmful?
Too often the public assumes that science is piling up immutable “truths,” rather than rigorously and honestly exploring nature wherever it leads. At a certain point scientists understand things more deeply, or in a different way, than they did before. It doesn’t always mean that what they understood earlier was wrong.

Why do you think a sizable segment of the population persists in holding onto views that are counter to the overwhelming scientific consensus?
It may be the same answer as with cancer: it is a very complex problem to which there is no one cause. First off, it is usually difficult to achieve scientific consensus among experts in the field, so imagine the gulf in understanding among the general public. And people in our commercial society have a healthy skepticism for things that are radically different; we don’t want to be sold snake oil. Or it may be like the old joke that says you can’t convince someone to believe something if his job depends on him not believing it.

We believe it helps to establish some familiarity with the audience. If a climate scientist addresses a room full of skeptics, and instead of immediately talking about climate change, she talks about her own personal background—which happens to be similar to that of many people in the room—then maybe some trust can be established, hopefully leading to a more open dialogue.

Do you think the proliferation of consumer technology (video, social
media, etc.) can help teach about science?
It can, but one of the things we have to worry about is that more and more the Internet is being tailored to people's interests, and it's becoming easier to avoid information that counters your belief systems or that you don't think you need to care about. That puts an added burden on communicators to reach people through the things they do care about.

What is the key to good communication?
Listening. It's a cliché, but communication is a two-way street. Our communication courses are successful when they enable dynamic interaction to take place between the speaker and the audience. That's a very different experience than the speaker just spraying information all over the audience.

What is the difference between good communicators and people who think they are good communicators?
George Bernard Shaw said, “the single biggest problem in communication is the illusion that it has taken place” (laughs). But, really, that question is the essence of our work. We train scientists to read the cues of the audience—from listeners' eyes and body language—and to recognize when they are being understood and when they are not.

When scientists get good at it, they can also more easily write for an unseen audience, because they know what the audience is thinking as they read each successive sentence. And that is really valuable, because if you don't know where the reader's mind is after sentence 'A,' how can you successfully follow it up with sentence 'B'?

Your classes take hours and ask participants to continue to practice the techniques.
We teach skills that scientists can develop and improve over time. We really try to transform our participants, so that it becomes second nature for them to “be there” with their audience and know if their message is being understood. We remind scientists how deeply they understand their work and how opaque it may sound to a person hearing about it for the first time. They have to remember what it is like to not know.

How many training sessions have you done?
We've given over 60 workshops and talks around the country. Our goal is not just to do workshops, but to introduce the concept that communications skills are an essential part of science and should be taught, for credit, as part of regular science education.

What is the Center's future plans?
We are working with universities to start their own centers—we already have a partnership with Dartmouth—and then create a network of centers around the country that trade best practices and new innovations. We hope to be the nexus of new communications ideas, and we are developing a website to help us do that.

We are also working with medical institutions to train young doctors and nurses to better communicate with their patients and the public. A simple thing like a doctor saying, “you tested positive for cancer” can sound like good news and make it more difficult to deliver the actual diagnosis.

What is the origin of the Flame Challenge, and what are you trying to accomplish?
I was writing a piece about communication for the journal Science, and I realized that I was saying things that everybody knows—that better science communication helps with public understanding, increased funding and interdisciplinary collaborations. I felt I needed to include something personal so that I would not just write something anyone else could write. I remembered that when I was 11-years-old I was fascinated by a flame at the end of a candle. I asked my teacher what a flame was, and all she could tell me was “oxidation.” I found that really unsatisfying (laughs).

So I started my article with this example of how I had needed better scientific communication, and in doing so I realized that I could create a contest challenging scientists to explain a flame so that an 11-year-old could understand it.

The original intention was to get scientists accustomed to the shocking idea that when you explain something to an 11-year-old you must use plain language. It's a good exercise because it really focuses your mind on the audience. And it's important to note that the contest is not about “dumbing it down” for a child; it's about clarity. I don't think science has ever been hurt by too much clarity.

If you had it to do all over again, would you become a scientist?
No, luckily, I think what I've done and I am now doing to support science is what I am best able to do.
In Reflection

Sally Glaser, PhD

Questions & Answers with CPIC’s Former CEO

How did you become CEO of the Cancer Prevention Institute of California?
Five and a half years ago, while I was a research scientist at CPIC and Director of the Greater Bay Area Cancer Registry, the Board of Trustees asked me if I would take on the role on an interim basis. After six months, they asked if I would stay in the role permanently.

What are some of CPIC’s major successes during the past five years?
In the past five years, we’ve had a variety of research successes, achieving national recognition for our research into cancer in Asian communities, securing extensions of important projects like the Family Registry for Breast Cancer and the California Teachers Study, and receiving support for the new LEGACY Girls study. We also were awarded contract renewals from both the National Cancer Institute’s Surveillance, Epidemiology and End Results program, and the state government to operate our cancer registry, one of the main supports of our research. We enhanced our research department through the hiring of a new Chief Scientific Officer, Ann Hsing, PhD.

On an organizational level, we’ve also changed the way we talk about CPIC to the outside world. We have better articulated how our work advances our mission, which has helped us communicate about CPIC to our constituencies and to develop new avenues of financial support through exciting initiatives, such as the “Get In Front” campaign.

Discuss some challenges you faced during your tenure as CEO.
The role of CEO involved some administrative and communications functions that I had not had experience with as a research scientist. CPIC has always been squarely focused on our cancer prevention work, and before I became CEO, the organization had not directed much attention to telling the world about our work. I believe our efforts to make the public more aware of our work and our findings are important—as taxpayers, they have supported the research, deserve to know more about it and should have the opportunity to support the organization.

“I am looking forward to reinvigorating my studies of Hodgkin lymphoma and breast cancer, and to working with my colleagues.”
— Sally Glaser, PhD

What are you most proud of accomplishing during your tenure?
I appreciated the opportunity to help stabilize some important administrative aspects of the organization when I became CEO. I believe we’ve strengthened how we function as a team toward our mission. The organization’s name change to the Cancer Prevention Institute of California, and the refocusing of our mission statement, in 2010 have fundamentally helped to clarify the nature and purpose of our work, for us and those we serve. The hiring of important new leadership to oversee our research and administrative groups has been important.

How has CPIC’s relationship with SCI evolved over the past five years?
The relationship of CPIC and SCI has grown and deepened in ways that have benefitted both institutions. With time has come many new research projects facilitated by the existence of the SCI. Among other examples are the numerous cancer surveillance publications addressing clinically relevant questions resulting from strong collaborations between CPIC researchers and SCI clinicians. Over the past couple of years, CPIC researchers have participated in and led SCI working groups established in the Population Sciences. CPIC’s Chief Scientific Officer, Ann Hsing, PhD, has worked closely with Robert Haile, DrPH, Associate Director for Population Sciences, to identify and enhance areas of mutual interest and growth. My regular meetings with Beverly Mitchell, MD, helped our two institutions stay in synch and work productively together.

What are you most looking forward to?
In addition to continuing as Director of the Greater Bay Area Cancer Registry at CPIC—a critical data source for research at CPIC and other institutions—I am looking forward to reinvigorating my studies of Hodgkin lymphoma and breast cancer, and to working with colleagues on other projects.

What are you most hopeful for in CPIC’s future?
The very high quality research and other cancer-related work that CPIC does so we can Get In Front of cancer is critical. Even as government-funding sources for research are in a decline, I hope we’re able to continue this innovative work, as well as advance its scope, by diversifying our funding opportunities and obtaining additional support from the public. I also hope CPIC is able to maintain and enhance its community-related outreach efforts, including service, information dissemination and education.
In February, the Cancer Prevention Institute of California (CPIC) and SCI welcomed over 100 researchers and clinicians from around the country to the inaugural Dee West Scientific Symposium, titled The Role of Population-Based Cancer Registries in Cancer Prevention and Control: A Cells-to-Society Approach.

The symposium’s purpose was to discuss research that integrates information from genetic and molecular markers with individual behaviors and the environment, because all of these interact to cause cancer and must be studied in concert. Population-based cancer registries can provide the basis for such research, as they contain extensive patient data essential to understanding cancer incidence, patterns and survival, including from a range of different study populations.

Presenter and moderator Ann W. Hsing, PhD, CPIC’s Chief Scientific Officer, encouraged the attendees to evaluate ways to integrate resources from population-based cancer registries with other large public or private databases, biospecimens and state-of-the-art research tools to facilitate innovative studies and scientific collaboration.

“We cannot overemphasize the important role that high-quality population-based data plays in estimating the burden and distribution of cancer, as well as developing effective cancer prevention and control policies,” Hsing said.

Speakers and panelists included Institute members Robert Haile, DrPH, Allison Kurian, MD, MSc, and Alice Whittemore, PhD, of Stanford, and Sally Glaser, PhD, and Scarlett Gomez, PhD, MPH, from CPIC, as well as experts from the National Cancer Institute, University of California San Francisco (UCSF), University of Hawaii and City of Hope National Medical Center.

Robert Hiatt, MD, PhD, professor and chair of the UCSF department of epidemiology and biostatistics, and director of its cancer control program, delivered the keynote address, recounting the progression of cancer control research from its beginnings in 1913, to the first organized cancer registration effort in 1935, to the so-called “War on Cancer” in 1971. He also discussed the future of cancer registries in California, emphasizing the need for improved case-reporting timelines, additional data linkages and increased information flow between registries and providers.

The symposium is named to honor Dee West, PhD, for his many accomplishments on behalf of cancer prevention research. West built the Northern California Cancer Center—which is now CPIC—and led the organization from 1993 to 2004. Throughout his tenure, he organized registries, including the Family Registry for Breast Cancer, led significant programs, like the National Cancer Institute Cancer Information Service and the California Every Woman Counts program, and helped forge the productive partnership between CPIC and SCI. He currently serves as executive director of the Cancer Registry of Greater California, as well as emeritus research scientist at CPIC and emeritus professor of epidemiology at Stanford.

SCI Director Beverly Mitchell, MD, thanked West for helping to expand SCI’s population sciences research.

“We continue to reinforce the bridges between the population sciences and the basic and clinical sciences through new and exciting initiatives like those discussed at the first Dee West Symposium,” Mitchell said.

CPIC and SCI plan to make the Dee West Symposium an annual event.

Clinical Trials Awareness Week

Raising Awareness about Cancer Clinical Trials

The Stanford Cancer Clinical Trials Office (CCTO) announces the 2014 Clinical Trials Awareness Week, to be held April 28 through May 2 in the Clinical Cancer Center.

All week there will be a “Snapshot of Cancer Care Research” poster exhibit and information desk in the lobby area staffed with recruitment specialists. There will also be daily presentations by patients and physicians to promote the more than 300 ongoing trials coordinated by the Stanford Clinical Cancer Center.

Research staff will be available for questions on Tuesday April 29 from 4:00 to 5:00 pm, and on Friday May 2 from 11:30 am to 1:00 pm. On Wednesday April 30 from 12:30 to 2:00 pm, a panel of cancer patients will talk about their clinical trials experiences.

“It is crucially important that we get word out to the community that clinical trials are one of the critical steps required for making any progress against cancer,” said George Fisher, MD, PhD, associate professor of medicine-oncology, and the CCTO medical director.

Information on Stanford’s clinical trials programs can be found on the CCTO website (http://med.stanford.edu/clinicaltrials/cancer-search.do), and by phone at 650.498.7061.
Transforming the Cancer Patient Experience
Stanford Cancer Initiative Progress Report

The Winter 2013 edition of SCI News reported on the launch of the Stanford Cancer Initiative to transform the diagnosis and treatment of cancer. The Initiative comprises four distinct but inter-related components that together will yield a transformational experience for our patients and their families:

1. Creating a new standard of cancer care
2. Targeting the toughest cancers
3. Capturing the power of Stanford science
4. Seizing the innovations of our age

In this issue, we would like to give you a brief update on our progress on the first topic: creating a new standard of care. For the past several months we have been working with the clinical and administrative cancer leadership to design and implement this aspect of the Initiative. Below is a high-level timetable of the projects that comprise the first five years of the cancer care transformation.

As you can see, the foundational components being implemented across all the CCPs, including a renewed focus on the “CI-CARE” best practice protocols, improvement of our quality and safety indicators, a concerted push to improve access for new patients and a focused effort to reduce wait times in the clinics. Also shown are our twelve Cancer Care Programs (CCPs) which are being divided into two groups to help facilitate the phase-in of the new procedures and to monitor their impact against current practices. We believe these components are essential building blocks for the transformation.

Beyond the foundational work, we have identified key care-related questions that are essential for us to provide a transformed patient experience. These questions will drive our internal performance standards and the evaluation of all of our patient-related processes. Among the questions are:

■ How can we improve the coordination of care across the entire care continuum?
■ If an inpatient stay is required, how can we ensure that there is seamless coordination between the clinics and the inpatient care teams?
■ How can we further improve the supportive care and survivorship experiences?

We look forward to providing you further details on this initiative in the coming months. In the meantime if you have any questions or seek clarification, please email us at scinewsletter@stanford.edu. We will publish responses to frequently asked questions in future issues of SCI News. We are all stewards of this transformation and we want to hear from you!

Doug Blayney, MD, Associate Director of Clinical Care
Beverly Mitchell, MD, SCI Director
Sridhar B. Sishadri, PhD, Vice President, Cancer Service Line

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Doug Blayney, MD, Associate Director of Clinical Care
Beverly Mitchell, MD, SCI Director
Sridhar B. Sishadri, PhD, Vice President, Cancer Service Line
Vintner and Golfer Team Up to Beat Breast Cancer
Passionate Partnership Supports Stanford Research

In October 2013, Suzanne Pride Bryan presented SCI member Allison Kurian, MD, MSc, with a check for $50,000. The carefully considered donation enabled Kurian to acquire huge amounts of molecular and genomic data for her “Oncoshare” breast cancer data-sharing project.

“Integrating this information will dramatically enrich the Oncoshare database,” said Kurian, an assistant professor of medicine, health research and policy. “It will enable us to discover tumor and patient profiles that predict the benefits and harms of specific therapies.”

Pride Bryan is co-owner of Pride Mountain Vineyards in St. Helena, California, and the donation represented her share of proceeds from sales of Curvature wines, limited production Cabernet Sauvignon and Chardonnay that she co-created explicitly to raise money for breast cancer research. Like her wines, her investment in Stanford science was the result of a long and very personal journey.

Working at her winery in 2009, Pride Bryan was told that a famous athlete was in the tasting room inquiring about a wine project. Such requests are not unusual for prestigious wineries—Pride Mountain Vineyards wines have been served in the White House by four different Presidents—so Pride Bryan was prepared to offer a polite, but firm, “no thank you.”

The athlete was LPGA star Cristie Kerr, one of the world’s top professional women golfers, and she was seeking a partner to produce wines to raise money to benefit breast cancer patients. After her mother was diagnosed with the disease Kerr made breast cancer her top philanthropic priority, including creating the “Birdies for Breast Cancer” program with the LPGA. She had no idea when they met that Pride Bryan was a five-year breast cancer survivor; and she could never have guessed the Pride family’s experiences with cancer.

Suzanne’s father, Jim Pride, was a born entrepreneur. An accomplished farmer, dentist and educator, he established the premier institute for dental management consulting. In 1990 he “retired” to California’s wine country and soon became a successful vintner. Then in 2001, at age 65, he was diagnosed with bladder cancer.

Pride sought treatment at Stanford, and for three years he and his wife Carolyn made frequent trips to Palo Alto. On one such trip, they attended a lecture by SCI member Irv Weissman, MD, the Virginia & D.K. Ludwig Professor for Clinical Investigation in Cancer Research, during which he mentioned his preference for Australian wines. Following the talk, Pride gave Weissman his own lecture on the superiority of California varietals. A fast friendship was born.

Though not treating Pride, Weissman made time to visit him. They discussed wine and research, and Pride saw an opportunity to help others who shared his diagnosis. In 2004, he and Carolyn donated $500,000 to help Weissman’s lab study the genetics of bladder cancer.

That same year Pride Bryan was diagnosed with breast cancer. She also received care at Stanford, her treatment cycle actually overlapping with her father’s.

“Dad and I ended up having chemotherapy side by side,” she recalled.

Jim Pride passed away in August 2004, just as his daughter was completing her treatment. He never got to see how his family’s gift helped identify three distinct sub-types of bladder cancer, as well as a way to determine if patients have an aggressive, essentially untreatable form. These advances help oncologists make important care decisions, including whether to forego painful treatment and focus on quality of life.

“There is a much longer path from your parents’ donation than any of us could expect,” Weissman recently wrote to Pride Bryan. “My only regret is that our discoveries are too late for the wonderful guy who catalyzed it.”

So when golfer Kerr suggested a philanthropic project, Pride Bryan was ready. As Curvature sales progressed, she searched Stanford for opportunities where her portion of the proceeds could make a difference. (Kerr uses her share to fund the Cristie Kerr Women’s Health Clinic in New Jersey, which provides breast cancer screening and diagnosis.)

“I had to be discerning with the money,” said Pride Bryan. “I chose Oncoshare because our targeted investment could have direct impact on patients.”

Most donors lack the resources and relationships that helped Pride Bryan and Kerr leverage their investments, and that is why SCI established the Cancer Discovery Fund—to combine gifts of all sizes, support Stanford’s brightest researchers and truly advance the standard of cancer care.

As Pride Bryan said, “If everybody does what we can—no matter what the amount—together we can make the difference between heartbeat and hope.”

For more information or to make a gift to the Cancer Discovery Fund, please visit cancerdiscoveryfund.stanford.edu.
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For more information and to register visit: healthmatters.stanford.edu